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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION V

DATE: FEB 03 1984

SUBJECT: Johns-Manville, Waukegan, Illinois-
Draft CERCLA Order and Asbestos NESHAPS

FROM: George Czerniak, Chief
Engineering Section I
Air Compliance Branch

TO: Babette Neuberger
Assistant Regional Counsel (5CHW-16)

On January 23, 1984, you sent me a draft order you plan to issue to the subject plant under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA). At your request, my staff has reviewed the proposed order and supporting documentation to ensure that your Superfund action does not conflict with the asbestos National Emission Standards for Hazardous Air Pollutants (NESHAPS).

Our comments are:

1. Since the NESHAPS requirements for active and inactive asbestos waste disposal sites are difficult to follow, I have attached two block diagrams which clarify the alternatives.
2. In their April 7, 1983, submittal, Johns-Manville's attorneys, Schiff, Hardin and Waite, repeatedly state that the active asbestos waste disposal site at the Waukegan plant is meeting either the "no visible emission" or the "daily 6-inch cover" requirements of the asbestos NESHAPS. The attached block diagram for active sites makes it clear that the cover requirement is sufficient by itself for compliance, but that the "no VE" requirement is not. If the latter is elected, there must also be the specified signs and fences, or a natural barrier, to deter public access.
3. Johns-Manville's July 18, 1983, cleanup/closure proposal repeatedly states that they will provide topsoil cover (6 inches), fertilizer and seed for the inactive site. However, the asbestos NESHAPS for inactive waste disposal sites requires that a cover of vegetation be grown and maintained.
4. The proposed order calls for warning signs along the existing fenceline. Although the asbestos NESHAPS does not require signs and fences if an inactive waste disposal site has the proper cover and vegetation, we think both are desirable. We understand that the Waukegan site is fenced on the south and west sides, and that there is a natural barrier on the north. We recommend fencing and signs on the east side to deter public access from the Lake Michigan beach.

5. If warning signs are installed, we recommend that the spacing between the lines be at least equal to the height of the letters, for proper legibility. We did not specify this in a Section 113(a) consent order for another asbestos inactive waste disposal site, and the spacing was inadequate.

6. Attachment A to the aforementioned April 7, 1983, submittal says that "floor sweepings that might contain asbestos fibers will be dumped into the recirculating water system where they will be carried to the settling basin." This suggests that one source of airborne asbestos fibers could be dried out dredgings from this basin.

7. Norm Niedergang informs us that Johns-Manville has verbally represented that it is discontinuing asbestos usage in all its products at the Waukegan plant. If you receive written confirmation of this fact, please send me a copy so that we may remove the manufacturing plant from our asbestos inventory.

8. On July 13, 1983, EPA proposed the attached amendments to the asbestos NESHAPS. These will reinstate work practice and equipment provisions that were held not to be emission standards by the Supreme Court in 1978. We are currently reviewing the Steering Committee draft of the promulgation which should occur in 3 to 6 months. Please note that these amendments will change the codification of the asbestos NESHAPS in the Federal Register. However, we have seen no change in the substantive requirements for active and inactive waste disposal sites. EPA plans to strike the reference to (c)(2) in 40 CFR 61.156(b), which would have been a substantive change. In a broader context, EPA has a separate activity underway to review the asbestos NESHAPS and determine if substantive revisions should be made.

If you have any questions on these comments, please contact Bruce Varner at 886-6793.

Attachments (3)

bcc: (w/attachments)

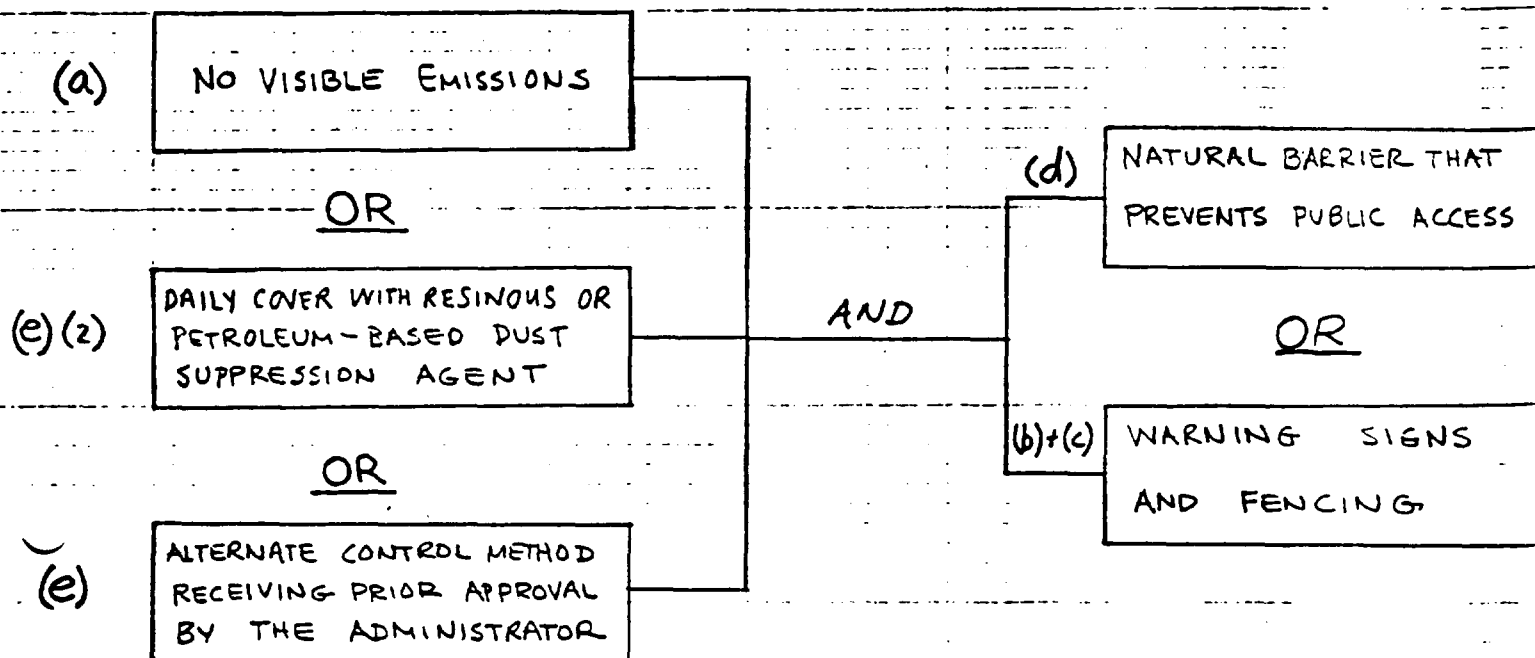
Kee

Kertcher

Czerniak

Ulrich (5C-16)

Niedergang (5HR-13)



OR

(1) SIX INCH DAILY COVER OF COMPACTED NON-ASBESTOS-CONTAINING MATERIAL

ACTIVE WASTE DISPOSAL SITES

40 CFR 61.25

INACTIVE WASTE DISPOSAL SITE
40 CFR 61.22 (2)

TWO FOOT COVERING OF COMPACTED
NON-ASBESTOS-CONTAINING MATERIAL

(5) (??)

OR

SIX INCH COVERING OF COMPACTED
NON-ASBESTOS-CONTAINING MATERIAL
AND A COVER OF VEGETATION

(5) (??)

OR

ALTERNATE CONTROL METHOD
RECEIVING PRIOR APPROVAL
BY THE ADMINISTRATOR

(5)

OR

NO VISIBLE EMISSIONS

(1)

AND

WARNING SIGNS
AND FENCING

(2) & (3)

OR

NATURAL BARRIER THAT
PREVENTS PUBLIC ACCESS

(4)

ENVIRONMENTAL PROTECTION AGENCY

40 CFR Part 61

(AD-FRL-3219-4)

National Emission Standards for Hazardous Air Pollutants; Amendments to Asbestos Standard

AGENCY: U.S. Environmental Protection Agency (EPA).

ACTION: Proposed rule and notice of public hearing.

SUMMARY: These proposed amendments to the national emission standard for asbestos would reinstate work practice and equipment provisions of the standard that were held not to be emission standards by the Supreme Court in 1978. They would also reword and rearrange other portions of the standard for clarity.

A public hearing will be held, if requested, to provide interested persons an opportunity for oral presentation of data, views, and arguments concerning the proposed amendments.

DATES: Comments. Comments must be received on or before September 9, 1983.

Public Hearing. If anyone contacts EPA requesting to speak at a public hearing by July 27, 1983, a public hearing will be held on August 9, 1983 beginning at 10:00 a.m.

Request to Speak at Hearing. Persons wishing to present oral testimony must contact EPA by August 3, 1983.

RESSES: Comments. Comments should be submitted (in duplicate if possible) to: Central Docket Section (A-131), Attention: Docket Number A-83-02, U.S. Environmental Protection Agency, 401 M Street, SW., Washington, D.C. 20460.

Public Hearing. If a public hearing is held, it will be held at the Environmental Research Center Auditorium, Corner of Highway 54 & Alexander Drive, Research Triangle Park, North Carolina. Persons wishing to present oral testimony should notify Mrs. Naomi Durkee, Standards Development Branch (MD-13), U.S. Environmental Protection Agency, Research Triangle Park, North Carolina 27711.

Docket. Docket number A-83-02, containing supporting information used in developing the proposed amendments, is available for public inspection and copying between 8:00 a.m. and 4:00 p.m., Monday through Friday, at EPA's Central Docket Section, West Tower Lobby, Gallery 1, Waterside Mall, 401 M Street, SW.,

Washington, D.C. 20460. A reasonable fee may be charged for copying.

FOR FURTHER INFORMATION CONTACT:

Mr. Gene W. Smith, Standards Development Branch, Emission Standards and Engineering Division (MD-13), U.S. Environmental Protection Agency, Research Triangle Park, N.C. 27711, telephone number (919) 541-5624.

Persons interested in attending the hearing should call Mrs. Naomi Durkee at (919) 541-5578 to verify that a hearing will occur.

SUPPLEMENTARY INFORMATION: On April 6, 1973 (38 FR 8828), EPA promulgated national emission standards for hazardous air pollutants (NESHAP) for asbestos in Subpart B of 40 CFR Part 61, pursuant to Section 112 of the Clean Air Act, as amended in 1970. Amendments to the NESHAP were promulgated on May 3, 1974 (39 FR 15398), October 14, 1975 (40 FR 48299), and March 2, 1977 (42 FR 12127). Parts of the NESHAP were in the form of work-practice standards, which were later held by the Supreme Court not to be emission standards within the meaning of Section 112, as amended in 1970. *Adamo Wrecking Company v. United States*, 434 U.S. 275 (1978).

On August 7, 1977, Section 112 of the Acts was amended to specifically authorize "design, equipment, work-practice and operational standards." Section 112(e). On June 19, 1978 (43 FR 26372), EPA repromulgated many of the work-practice standards in the NESHAP, pursuant to Section 112, as amended in 1977. The provisions so repromulgated were 40 CFR 61.22(d), (d)(1), (d)(2)(iii), (d)(4)(i)-(iv), (e), (e)(2) (in part), and (e)(3).

Work-practice standards contained in other portions of the NESHAP were not repromulgated in 1978 (§ 61.22(b), (d)(4)(v) and (vi), (d)(6)(iii) and (iv), (f), (i), (j)(2) and (3), (k)(2) and (3), (1)(2)-(5); § 61.23; and § 61.25(b)-(e)). Some of these paragraphs contain both emission limits and work-practice standards. EPA intended that owners and operators could comply with either the emission limit or the work-practice standards at their option. The emission limits were not affected by the Court's ruling. The rulemaking being proposed today would reinstate the work-practice standards contained in these paragraphs. It would also reinstate the work-practice standards in other paragraphs that do not contain an alternative emission limit.

Many of these provisions are being complied with now, and most owners and operators of asbestos sources are conscientiously minimizing asbestos emission. Therefore, today's proposed

action would have minimal adverse economic effects. However, this action is intended to make clear EPA's intent that asbestos emissions be controlled.

Another purpose of the proposed rulemaking is to reword and rearrange various provisions of the NESHAP for clarity. This has resulted in the addition of several sections and the redesignation of the NESHAP as Subpart M. The discussion below, however, will refer to the old paragraph numbering system for ease of understanding. A listing is provided to show the new section numbers in which the provisions contained under the old numbers can be found.

Old Designation (Subpart B) (section)	New Designation (Subpart M) (section)
61.20.....	61.140
61.21.....	61.141
61.22.....	
(a).....	61.142
(b).....	61.143
(c).....	61.144
(d).....	61.145
(d)(1)(i).....	61.145
(d)(1)(ii).....	61.146
(d)(2).....	61.146
(d)(3)(i)(A), (B).....	61.145
(d)(3)(ii).....	61.145
(d)(4).....	61.147
(d)(5).....	61.145
(d)(6).....	61.145
(e).....	61.148
(f).....	61.142-61.152
(g).....	61.141
(h).....	61.149
(i).....	61.150
(j).....	61.152
(k).....	61.151
(l).....	61.153
61.23.....	61.154
61.24.....	61.155
61.25.....	61.156

The authority and basis for this proposal is contained in Section 112(e) of the Clean Air Act, as amended in 1977. This Section provides that the Administrator may promulgate a "design, equipment, work practice, or operational standard, or combination thereof" for control of a hazardous air pollutant if it is infeasible to prescribe an emission standard under Section 112(b) for the pollutant. Such infeasibility occurs, for example, when "a hazardous pollutant or pollutants cannot be emitted through a conveyance designed and constructed to emit or capture such pollutant" or when "the application of measurement methodology to a particular class of sources is not practicable due to technological or economic limitations." For some asbestos emission sources affected by this proposed rulemaking, the Administrator finds that it is not feasible to prescribe a numerical emission limitation because the asbestos cannot be emitted through a

conveyance that readily captures emissions for measurement and because such measurement, in any event, would be technologically and economically impracticable. An example of such a source is the emission of asbestos fibers during the demolition of a building containing friable asbestos materials. For other types of asbestos emission sources, a numerical emission limitation would be feasible under certain conditions but not under others. For example, under normal conditions, a waste disposal site could be operated with no visible emissions. Under high-wind conditions, however, visible emissions could occur even if good work procedures were followed. Therefore, a no visible emission limitation that would be achievable under normal operating conditions would be technologically impracticable during windy conditions. Work-practice standards provide an alternative means of compliance that would represent best available technology under these and other abnormal conditions. The Administrator believes it is important to provide alternative work-practice standards for sources that may not always be able to achieve no visible emissions even though they employ good asbestos emission control procedures. Therefore, the proposed amendments to the asbestos standard would reinstate work practice and other non-numerical standards as the only requirement for some asbestos sources and as an alternative to a numerical emission limit for other sources.

Summary of Proposed Amendments

The following sections and paragraphs were either repromulgated in June 1978 or do not contain work practice or equipment requirements. The Agency is proposing only to reword these for clarity. Therefore, only comments regarding the new wording and not the substantive content of these paragraphs will be considered in this rulemaking. The reworded sections and paragraphs are as follows: § 61.20; § 61.21; § 61.22(a), (c), (d)(1)-(3), (d)(4)(i)-(iv) and (vii), (d)(5), (d)(6)(i)-(ii), (e), (g), (h), (j)(1) and (4), (k)(1), (l)(1); § 61.24; § 61.25(a).

The following sections and paragraphs are being proposed for comment on their content as well as being reworded for clarity: § 61.22(b), (d)(4)(v) and (vi), (d)(6)(iii) and (iv), (f), (i), (j)(2) and (3), (k)(2) and (3), (1)(2)-(5); § 61.23; § 61.25(b)-(e). A discussion of these portions of the asbestos NESHAP is presented below.

Alternative Non-numerical Standards

Several of the paragraphs that are being proposed do not impose any new requirements. Some of these reinstate work practice or equipment specifications that are an alternative to the current no visible emissions standard (an emission limit not affected by the 1978 Supreme Court decision). Others reinstate means of compliance that are alternatives to work practice requirements that were repromulgated in June 1978. All of these are being proposed today to reinstate the alternative means of compliance that EPA believes should be available to those who must comply with the asbestos NESHAP. Since these paragraphs do not impose any new requirements, they would not result in adverse economic or energy impacts to source owners and operators. Following is a discussion of these paragraphs.

Section 61.22(d)(4)(vi)

This paragraph reinstates alternative work practices that may be used in lieu of those required in paragraph (d)(4)(ii) (wetting during stripping) during freezing weather. Without this alternative, it might not be possible to carry out demolition operations during freezing weather in some cases. Therefore, beneficial economic impacts may result in those cases, and there would be no adverse economic impacts.

Section 61.22(d)(6)(iii) and (iv).

Paragraph (d)(6) reinstates provisions exempting demolition operations for structurally unsound buildings from most of the NESHAP, although some requirements would apply. Paragraphs (d)(6)(iii) and (iv) contain two of these requirements. The exemption, even with the requirements in paragraphs (d)(6)(iii) and (iv), provides a less restrictive alternative for certain demolition operations. Therefore, proposal of these paragraphs would not result in any adverse economic impacts on demolition operations.

Section 61.22(f), (j)(3), (k)(3)(i) and (ii), (1)(5); § 61.23; and § 61.25(e)

These paragraphs reinstate alternative work practices that may be used in lieu of complying with a no visible emission limit. They would impose no additional costs and, therefore, would result in no adverse economic impacts.

Non-numerical Standards With No Alternatives

The remaining paragraphs being proposed for comment reinstate specific work-practice requirements for which

there are no alternatives. EPA believes that these proposed requirements would not impose significant adverse economic impacts on source owners and operators, as discussed below.

Section 61.22(b)

This paragraph reinstates the prohibition of surfacing roadways with asbestos tailings or asbestos-containing waste. This prohibition is not expected to cause serious adverse economic impacts because road surfacing with asbestos tailings or waste materials is not commonly practiced in the United States. The prohibition is necessary, however, to prevent such surfacing in isolated cases.

Section 61.22(d)(4)(v)

This paragraph would reinstate the requirement that asbestos removed during demolition or renovation be kept wet until disposal is completed. It would also require that the asbestos not be dropped or thrown to the ground or a lower floor and that asbestos removed more than 50 feet above level be transported to the ground in dust-tight chutes or containers (unless it is removed in units or sections).

There would be no significant adverse economic impact resulting from this paragraph. Provisions of the asbestos NESHAP that do not require reinstatement require that the asbestos be adequately wetted during stripping and removal. They also require that there be no visible emissions during the collection, handling, and transporting of the asbestos waste. Demolition and renovation contractors typically transport the asbestos they remove from a facility to a waste disposal site on a daily basis. In order to meet no visible emissions during the collecting and transporting activities, they keep the asbestos wet until it is placed into containers and trucks, and they place it into containers as soon as possible to keep it from drying out and unnecessarily exposing workers to asbestos fibers. Therefore, this paragraph would not significantly affect asbestos removal and collection activities that would occur in its absence. EPA believes it is necessary, however, to ensure that effective asbestos emission control techniques are followed after the asbestos is stripped or removed and before it is taken away to a waste disposal site.

Section 61.22(i)

This paragraph reinstates the prohibition of commercial asbestos in certain molded and wet-applied insulating materials. It is not expected to

result in significant adverse economic materials in the United States since economical substitutes are widely available. EPA believes that there is general compliance with this provision but that the prohibition is necessary to make it clear that this use of asbestos should not be reinstituted.

Section 61.22(j)(2) and (k)(2)

These paragraphs simply refer to the requirements of § 61.25. Those portions of § 61.25 that require repromulgation are discussed below.

Section 61.22(1)(2)-(4) and § 61.25(b)-(d)

These paragraphs reinstate the requirement for warning signs and fencing around asbestos waste disposal sites if: (1) The owner or operator chooses to comply with a no visible emission limit rather than follow specified work practices, and (2) there is no natural barrier to deter access by the general public. Most disposal site owners and operators currently follow the work practices specified and thus would not be required by these amendments to install warning signs and fences, although many States require fencing for all landfills. For the few cases where signs and fencing would not be installed in the absence of these proposed paragraphs, the cost of the signs and fences would be minimal when compared to the cost of the disposal site and its operation. Therefore, there would be no significant adverse economic impacts resulting from these paragraphs.

Public Hearing

A public hearing, if requested, will be held to discuss the proposed amendments to the asbestos standard in accordance with Sections 112(b)(1)(B) and 307(d)(5) of the Clean Air Act. Persons wishing to make oral presentations on the proposed amendments should contact EPA at the address given in the ADDRESSES section of this preamble. Oral presentations will be limited to 15 minutes each. Any member of the public may file a written statement before, during, or within 30 days after the hearing. Written statements should be addressed to the Central Docket Section address given in the ADDRESSES section of this preamble and should refer to docket number A-83-02.

A verbatim transcript of the hearing and written statements will be available for public inspection and copying during normal working hours at EPA's Central Docket Section in Washington, D.C. (see ADDRESSES section of this preamble).

Docket

The docket is an organized and complete file of all the information submitted to or otherwise considered by EPA in the development of this proposed rulemaking. The principal purposes of the docket are: (1) To allow interested parties to identify readily and locate documents so that they can effectively participate in the rulemaking process; and (2) to serve as the record in case of judicial review, except for interagency review materials [§ 307(d)(7)(A)].

Miscellaneous

The Administrator will welcome comments on all aspects of the proposed amendments in § 61.22(b), (d)(4)(v) and (vi), (d)(6)(iii) and (iv), (f), (i), (j)(2) and (3), (k)(2) and (3), (1)(2-5); § 61.23; and § 61.25(b)-(e), including economic and technological issues. For proposed amendments to the remaining portions of the asbestos standard, only comments pertaining to the rewording and rearranging of those portions will be considered by the Administrator.

This regulation will be reviewed within 5 years from the date of promulgation. This review will include an assessment of such factors as the need for integration with other programs, the existence of alternative methods, enforceability, improvements in emission control technology and health data, and reporting requirements.

Under E.O. 12291, EPA must judge whether a regulation is "major" and therefore subject to the requirement of a Regulatory Impact Analysis. This regulation is not major because it does not meet any of the criteria specified in the Executive Order regarding the annual effect on the economy; increase in cost or prices; or adverse effects on competition, employment, investment, productivity, innovation, or the ability of U.S. enterprises to compete with foreign enterprises.

These information collection requirements have been approved by the Office of Management and Budget (OMB) under the provisions of the Paperwork Reduction Act of 1980, 44 U.S.C. 3501 *et seq* and have been assigned OMB control number 2000-0264.

This regulation was submitted to the Office of Management and Budget (OMB) for review as required by E.O. 12291.

Pursuant to the provisions of 5 U.S.C. 605(b), I hereby certify that this rule, if promulgated, will not have a significant economic impact on a substantial number of small entities because no significant impact will result.

Dated: June 23, 1983.

William D. Ruckelshaus,
Administrator.

PART 61—(AMENDED)

It is proposed to amend 40 CFR Part 61 by redesignating Subpart B (§§ 61.20-61.25) as Subpart M and revising New Subpart M to read as follows:

Subpart M—National Emission Standard for Asbestos

Sec.

- 61.140 Applicability.
- 61.141 Definitions.
- 61.142 Standard for asbestos mills.
- 61.143 Standard for roadways.
- 61.144 Standard for manufacturing.
- 61.145 Standard for demolition and renovation: Applicability.
- 61.146 Standard for demolition and renovation: Notification requirements.
- 61.147 Standard for demolition and renovation: Procedures for asbestos emission control.
- 61.148 Standard for spraying.
- 61.149 Standard for fabricating.
- 61.150 Standard for insulating materials.
- 61.151 Standard for waste disposal for asbestos mills.
- 61.152 Standard for waste disposal for manufacturing, demolition, renovation, spraying, and fabricating operations.
- 61.153 Standard for inactive waste disposal sites for asbestos mills and manufacturing and fabricating operations.
- 61.154 Air-cleaning.
- 61.155 Reporting.
- 61.156 Active waste disposal sites.

Authority: Sec. 112 and 301(a) of the Clean Air Act, as amended (42 U.S.C. 7412, 7601(a)), and additional authority as noted below.

Subpart M—National Emission Standard for Asbestos

§ 61.140 Applicability

The provisions of this subpart are applicable to those sources specified in §§ 61.142 through 61.153.

§ 61.141 Definitions

All terms that are used in this subpart and are not defined below are given the same meaning as in the Act and in Subpart A of this part.

Active waste disposal site means any disposal site other than an inactive site.

Adequately wetted means sufficiently mixed or coated with water or an aqueous solution to prevent dust emissions.

Asbestos means the asbestiform varieties of serpentinite (chrysotile), riebeckite (crocidolite), cummingtonite-grunerite, anthophyllite, and actinolite-tremolite.

Asbestos-containing waste material means any waste that contains commercial asbestos and is generated by a source subject to the provisions of

this subpart. This term includes asbestos mill tailings, asbestos waste from control devices, friable asbestos waste material, and bags or containers that previously contained commercial asbestos. However, as applied to demolition and renovation operations, this term includes only friable asbestos waste and asbestos waste from control devices.

Asbestos material means asbestos or any material containing asbestos.

Asbestos mill means any facility engaged in converting asbestos ore into commercial asbestos. Outside storage of asbestos material is not considered a part of the asbestos mill.

Asbestos tailings means any solid waste that contains asbestos and is a product of asbestos mining or milling operations.

Asbestos waste from control devices means any waste material that contains asbestos and is collected in a pollution control device.

Commercial asbestos means any asbestos that is extracted from asbestos ore.

Demolition means the wrecking or taking out of any load-supporting structural member of a facility together with any related handling operations.

Emergency renovation operation means a renovation operation that was not planned but results from a sudden, unexpected event. This term includes operations necessitated by nonroutine failures of equipment.

Fabricating means any processing of a manufactured product that contains commercial asbestos, with the exception of processing at temporary sites for the construction or restoration of facilities.

Facility means any institutional, commercial, or industrial structure, installation, or building (including apartment buildings having more than four dwelling units).

Friable asbestos material means any material containing more than 1 percent asbestos by weight that hand pressure can crumble, pulverize, or reduce to powder when dry.

Functional member means any pipe, duct, boiler, tank, reactor, turbine, or furnace at or in a facility.

Inactive waste disposal site means any disposal site or portion of it where additional asbestos-containing waste material will not be deposited and where the surface is not disturbed by vehicular traffic.

Manufacturing means the combining of commercial asbestos—or, in the case of woven friction products, the combining of textiles containing commercial asbestos—with any other material(s), including commercial

asbestos, and the processing of this combination into a product.

Outside air means the air outside buildings and structures.

Particulate asbestos material means divided particles of asbestos material.

Planned renovation operation means a renovation operation, or a number of such operations, in which the amount of friable asbestos material that will be removed or stripped within a given period of time can be predicted. Individual nonscheduled operations are included if a number of such operations can be predicted to occur during a given period of time.

Remove means to take out friable asbestos materials from any facility.

Renovation means refurbishing that includes the removal of friable asbestos materials.

Roadways means surfaces on which motor vehicles travel. This term includes highways, roads, streets, parking areas, and driveways.

Strip means to take off friable asbestos materials from any part of a facility.

Structural member means any load-supporting member of a facility, such as beams and load supporting walls; or any nonload-supporting member, such as ceilings and nonload-supporting walls.

Visible emissions means any emissions containing particulate asbestos material that are visually detectable without the aid of instruments. This does not include condensed uncombined water vapor.

§ 61.142 Standard for asbestos mills.

Each owner or operator of an asbestos mill shall either discharge no visible emissions to the outside air from that asbestos mill or use the methods specified by § 61.154 to clean emissions containing particulate asbestos material before they escape to, or are vented to, the outside air.

§ 61.143 Standard for roadways.

No owner or operator of a roadway may deposit asbestos tailings or asbestos-containing waste material on that roadway, unless it is a temporary roadway on an area of asbestos ore deposits.

§ 61.144 Standard for manufacturing.

(a) **Applicability:** This section applies to the following manufacturing operations using commercial asbestos:

(1) The manufacture of cloth, cord, wicks, tubing, tape, twine, rope, thread, yarn, roving, lap, or other textile materials.

(2) The manufacture of cement products.

(3) The manufacture of fireproofing and insulating materials.

(4) The manufacture of friction products.

(5) The manufacture of paper, millboard, and felt.

(6) The manufacture of floor tile.

(7) The manufacture of paints, coatings, caulks, adhesives, and sealants.

(8) The manufacture of plastics and rubber materials.

(9) The manufacture of chlorine.

(10) The manufacture of shotgun shell wads.

(11) The manufacture of asphalt concrete.

(b) **Standard:** Each owner or operator of any of the manufacturing operations to which this section applies shall either:

(1) Discharge no visible emissions to the outside air from these operations or from any building or structure in which they are conducted; or

(2) Use the methods specified by § 61.154 to clean emissions from these operations containing particulate asbestos material before they escape to, or are vented to, the outside air.

§ 61.145 Standard for demolition and renovation: Applicability.

The requirements of §§ 61.146 and 61.147 apply to each owner or operator of a demolition or renovation operation as follows:

(a) If the amount of friable asbestos materials in a facility being demolished is at least 80 linear meters (260 linear feet) on pipes or at least 15 square meters (160 square feet) on structural or other functional members, all the requirements of §§ 61.146 and 61.147 apply, except as provided in paragraph (c) of this section.

(b) If the amount of friable asbestos materials in a facility being demolished is less than 80 linear meters (260 linear feet) on pipes and less than 15 square meters (160 square feet) on structural and other functional members, only the notification requirements of paragraphs (a), (b), and (c) (1), (2), (3), (4), and (5) of § 61.146 apply.

(c) If the facility is being demolished under an order of a State or local governmental agency, issued because the facility is structurally unsound and in danger of imminent collapse, only the requirements in § 61.146 and in paragraphs (d), (e), and (f) of § 61.147 apply.

(d) If more than 80 linear meters (260 linear feet) of friable asbestos materials on pipes or more than 15 square meters (160 square feet) of friable asbestos materials on other functional and structural members are stripped or

removed at a facility being renovated, all the requirements of §§ 61.146 and 61.147 apply.

(1) To determine whether paragraph (d) of this section applies to planned renovation operations involving individual nonscheduled operations, predict the additive amount of friable asbestos materials to be removed or stripped over the maximum period of time a prediction can be made, not to exceed 1 year.

(2) To determine whether paragraph (d) of this section applies to emergency renovation operations, estimate the amount of friable asbestos materials to be removed or stripped as a result of the sudden, unexpected event that necessitated the renovation.

(e) Owners or operators of demolition and renovation operations are exempt from the requirements of §§ 61.05(a), 7, and 61.09.

§ 61.146 Standard for demolition and renovation: Notification requirements.

Each owner or operator to which this section applies shall:

(a) Provide the Administrator with written notice of intention to demolish or renovate.

(b) Postmark or deliver the notice as follows:

(1) At least 10 days before demolition begins if the operation is described in § 61.145(a);

(2) At least 20 days before demolition begins if the operation is described in § 61.145(b);

(3) As early as possible before demolition begins if the operation is described in § 61.145(c);

(4) As early as possible before renovation begins.

(c) Include the following information in the notice:

(1) Name and address of owner or operator.

(2) Description of the facility being demolished or renovated, including the size, age, and prior use of the facility.

(3) Estimate of the approximate amount of friable asbestos material present in the facility. For facilities described in § 61.145(b), explain techniques of estimation.

(4) Location of the facility being demolished or renovated.

(5) Scheduled starting and completion dates of demolition or renovation.

(6) Nature of planned demolition or renovation and method(s) to be used.

(7) Procedures to be used to comply with the requirements of this section.

(8) Name and location of the waste disposal site where the friable asbestos waste material will be deposited.

(9) For facilities described in § 61.145(c), the name, title, and authority

of the State or local governmental representative who has ordered the demolition.

§ 61.147 Standard for demolition and renovation: Procedures for asbestos emission control.

Each owner or operator to whom this section applies shall comply with the following procedures to prevent emissions of particulate asbestos material to the outside air:

(a) Remove friable asbestos material from a facility being demolished before any wrecking or dismantling that would break up the materials or preclude access to the materials for subsequent removal. However, friable asbestos materials need not be removed before demolition if:

(1) They are in a structural or functional member that is encased in concrete or other similar material; and

(2) These materials are adequately wetted whenever exposed during demolition.

(b) When a functional or structural member covered or coated with friable asbestos materials is being taken out of the facility as units or in sections:

(1) Adequately wet any friable asbestos materials exposed during cutting or disjoining operations; and

(2) Carefully lower the units or sections to ground level, not dropping them or throwing them.

(c) Adequately wet friable asbestos materials when they are being stripped from functional or structural members before the members are removed from the facility. In renovation operations, wetting that would unavoidably damage equipment is not required if the owner or operator:

(1) Asks the Administrator to determine whether wetting to comply with this paragraph would unavoidably damage equipment, and, before beginning to strip, supplies the Administrator with adequate information to make this determination; and

(2) When the Administrator does determine that equipment damage would be unavoidable, uses a local exhaust ventilation and collection system designed and operated to capture the particulate asbestos material produced by the stripping and removal of the friable asbestos materials. The system must exhibit no visible emissions to the outside air or be designed and operated in accordance with the requirements in § 61.154.

(d) After a functional or structural member has been taken out of the facility as units or in sections, either:

(1) Adequately wet friable asbestos materials during stripping; or

(2) Use a local exhaust ventilation and collection system designed and operated to capture the particulate asbestos material produced by the stripping. The system must exhibit no visible emissions to the outside air or be designed and operated in accordance with the requirements in § 61.154.

(e) For friable asbestos materials that have been removed or stripped:

(1) Adequately wet the materials to ensure that they remain wet during all remaining stages of demolition or renovation and related handling operations; and

(2) Carefully lower the materials to the ground or a lower floor, not dropping or throwing them; and

(3) Transport the materials the ground via dust-tight chutes or containers if they have been removed or stripped more than 50 feet above ground level and were not removed as units or in sections.

(f) When the temperature at the point of wetting is below 0°C (32°F):

(1) Comply with the requirements of paragraphs (d) and (e) of this section. The owner or operator need not comply with the other wetting requirements in this section; and

(2) Remove functional and structural members coated or covered with friable asbestos materials as units or in sections to the maximum extent possible.

(g) For facilities described in § 61.145(c), adequately wet the portion of the facility that contains friable asbestos materials during the wrecking operation.

§ 61.148 Standard for spraying.

The owner or operator of an operation in which asbestos-containing materials are spray applied shall comply with the following requirements:

(a) Use materials that contain 1 percent asbestos or less on a dry weight basis for spray-on application on buildings, structures, pipes, and conduits, except as provided in paragraph (c) of this section.

(b) For spray-on application of materials that contain more than 1 percent asbestos on a dry weight basis on equipment and machinery, except as provided in paragraph (c) of this section:

(1) Notify the Administrator at least 20 days before beginning the spraying operation. Include the following information in the notice:

(i) Name and address of owner or operator.

(ii) Location of spraying operation.

(iii) Procedures to be followed to meet the requirements of this paragraph.

(2) Discharge no visible emissions to the outside air from the spray-on application of the asbestos-containing material or use the methods specified by § 61.154 to clean emissions containing particulate asbestos material before they escape to, or are vented to, the outside air.

(c) The requirements of paragraphs (a) and (b) of this section do not apply to the spray-on application of materials where the asbestos fibers in the materials are encapsulated with a bituminous or resinous binder during spraying and the materials are not friable after drying.

(d) Owners and operators of sources subject to this paragraph are exempt from the requirements of §§ 61.05(a), 61.07, and 61.09.

§ 61.149 Standard for fabricating.

(a) *Applicability.* This section applies to the following fabricating operations using commercial asbestos:

(1) The fabrication of cement building products.

(2) The fabrication of friction products, except those operations that primarily install asbestos friction materials on motor vehicles.

(3) The fabrication of cement or silicate board for ventilation hoods; ovens; electrical panels; laboratory furniture, bulkheads, partitions, and ceilings for marine construction; and flow control devices for the molten metal industry.

(b) *Standard.* Each owner or operator of any of the fabricating operations to which this section applies shall either:

(1) Discharge no visible emissions to the outside air from any of the operations or from any building or structure in which they are conducted; or

(2) Use the methods specified by § 61.154 to clean emissions containing particulate asbestos material before they escape to, or are vented to, the outside air.

§ 61.150 Standard for insulating materials.

After the effective date of this regulation, no owner or operator may install insulating materials that contain commercial asbestos if the materials are either molded and friable or wet-applied and friable after drying. The provisions of this paragraph do not apply to spray-applied insulating materials regulated under § 61.148.

§ 61.151 Standard for waste disposal for asbestos mills.

Each owner or operator of any source covered under the provisions of § 61.142 shall:

(a) Deposit all asbestos-containing waste material at waste disposal sites

operated in accordance with the provisions of § 61.158; and

(b) Discharge no visible emissions to the outside air from the transfer of asbestos waste from control devices to the tailings conveyor, or use the methods specified by § 61.154 to clean emissions containing particulate asbestos material before they escape to, or are vented to, the outside air. Dispose of the asbestos waste from control devices in accordance with § 61.152(b) or paragraph (c) of this section; and

(c) Discharge no visible emissions to the outside air during the collection, processing, packaging, transporting, or deposition of any asbestos-containing waste material, or use one of the disposal methods specified in paragraphs (c)(1) or (2) of this section, as follows:

(1) Use a wetting agent as follows:

(i) Adequately mix all asbestos-containing waste material with a wetting agent recommended by the manufacturer of the agent to effectively wet dust and tailings, before depositing the material at a waste disposal site. Use the agent as recommended for the particular dust by the manufacturer of the agent.

(ii) Discharge no visible emissions to the outside air from the wetting operation or use the methods specified by § 61.154 to clean emissions containing particulate asbestos material before they escape to, or are vented to, the outside air.

(iii) Wetting may be suspended when the ambient temperature at the waste disposal site is less than -0.5°C (15°F). Determine the ambient air temperature by an appropriate measurement method with an accuracy of $\pm 1^\circ\text{C}$ ($\pm 2^\circ\text{F}$), and record it at least hourly while the wetting operation is suspended. Keep the records for at least 2 years in a form suitable for inspection.

(2) Use an alternative disposal method that has received prior approval by the Administrator.

§ 61.152 Standard for waste disposal for manufacturing, demolition, renovation, spraying, and fabricating operations.

Each owner or operator of any source covered under the provisions of §§ 61.144–61.149 shall:

(a) Deposit all asbestos-containing waste material at waste disposal sites operated in accordance with the provisions of § 61.158; and

(b) Discharge no visible emissions to the outside air during the collection, processing (including incineration), packaging, transporting, or deposition of any asbestos-containing waste material generated by the source, or use one of

the disposal methods specified in paragraphs (b)(1), (2), or (3) of this section, as follows:

(1) Treat asbestos-containing waste material with water:

(i) Mix asbestos waste from control devices with water to form a slurry; adequately wet other asbestos-containing waste material; and

(ii) Discharge no visible emissions to the outside air from collection, mixing, and wetting operations, or use the methods specified by § 61.154 to clean emissions containing particulate asbestos material before they escape to, or are vented to, the outside air; and

(iii) After wetting, seal all asbestos-containing waste material in leak-tight containers while wet; and

(iv) Label the containers specified in paragraph (b)(1)(iii) as follows:

CAUTION

Contains Asbestos

Avoid Opening or

Breaking Container

Breathing Asbestos is Hazardous to Your Health

Alternatively, use warning labels specified by Occupational Safety and Health Standards of the Department of Labor, Occupational Safety and Health Administration (OSHA) under 29 CFR 1910.1001(g)(2)(ii).

(2) Process asbestos-containing waste material into nonfriable forms:

(i) Form all asbestos-containing waste material into nonfriable pellets or other shapes; and

(ii) Discharge no visible emissions to the outside air from collection and processing operations, or use the methods specified by § 61.154 to clean emissions containing particulate asbestos material before they escape to, or are vented to, the outside air.

(3) Use an alternative disposal method that has received prior approval by the Administrator.

§ 61.153 Standard for inactive waste disposal sites for asbestos mills and manufacturing and fabricating operations.

Each owner or operator of any inactive waste disposal site that was operated by sources covered under §§ 61.142, 61.144, or 61.149 and received deposits of asbestos-containing waste material generated by the sources, shall

(a) Comply with one of the following:

(1) Either discharge no visible emissions to the outside air from an inactive waste disposal site subject to this paragraph; or

(2) Cover the asbestos-containing waste material with at least 15 centimeters (6 inches) of compacted

nonasbestos-containing material, and grow and maintain a cover of vegetation on the area adequate to prevent exposure of the asbestos-containing waste material; or

(3) Cover the asbestos-containing waste material with at least 60 centimeters (2 feet) of compacted nonasbestos-containing material, and maintain it to prevent exposure of the asbestos-containing waste; or

(4) For inactive waste disposal sites for asbestos tailings, apply a resinous or petroleum-based dust suppression agent that effectively binds dust and controls wind erosion. Use the agent as recommended for the particular asbestos tailings by the manufacturer of the dust suppression agent. Obtain prior approval of the Administrator to use other equally effective dust suppression agent. For purposes of this paragraph, waste crankcase oil is not considered a dust suppression agent.

(b) Unless a natural barrier adequately deters access by the general public, install and maintain warning signs and fencing as follows, or comply with paragraph (a)(2) or (a)(3) of this section.

(1) Display warning signs at all entrances and at intervals of 100 m (330 feet) or less along the property line of the site or along the perimeter of the sections of the site where asbestos-containing waste material was deposited. The warning signs must:

(i) Be posted in such a manner and location that a person can easily read the legend; and

(ii) Conform to the requirements for 51 cm (20" x 14") upright format signs specified in 29 CFR 1910.145(d)(4) and this paragraph; and

(iii) Display the following legend in the lower panel with letter sizes and styles of a visibility at least equal to those specified in this paragraph.

Legend	Notation
Asbestos Waste Disposal Site. Do Not Create Dust.	2.5 cm (1 inch) Sans Serif, Gothic or Block. 1.9 cm (¾ inch) Sans Serif, Gothic or Block. 14 Point Gothic.
Breathing Asbestos is Hazardous to Your Health.	

Spacing between any two lines must be at least equal to the height of the upper of the two lines.

(2) Fence the perimeter of the site in a manner adequate to deter access by the general public.

(3) Upon request and supply of appropriate information, the Administrator will determine whether a fence or a natural barrier adequately deters access by the general public.

(c) The owner or operator may use an alternative control method that has received prior approval of the Administrator rather than comply with the requirements of paragraph (a) or (b) of this section.

§ 61.154 Air-cleaning.

(a) The owner or operator who elects to use air-cleaning, as permitted by §§ 61.142, 61.144, 61.147(c)(2), 61.147(d)(2), 61.148(b)(2), 61.149(b), 61.150(b)(1)(ii), and 61.150(b)(2)(ii) shall:

(1) Use fabric filter collection devices, except as noted in paragraph (b) of this section, doing all of the following:

(i) Operating the fabric filter collection devices at a pressure drop of no more than 4 inches water gage, as measured across the filter fabric; and

(ii) Ensuring that the airflow permeability, as determined by ASIM Method D737-75, does not exceed 9 m³/min/m² (30 ft³/min/ft²) for woven fabrics or 11 m³/min/m² (35 ft³/min/ft²) for felted fabrics, except that 12 m³/min/m² (40 ft³/min/ft²) for woven and 14 m³/min/m² (45 ft³/min/ft²) for felted fabrics is allowed for filtering air from asbestos ore dryers; and

(iii) Ensuring that each square meter of felted fabric weighs at least 237 grams (14 ounces) and is at least one-sixteenth inch thick throughout; and

(iv) Avoiding the use of synthetic fabrics that contain fill yarn other than that which is spun.

(2) Properly install, use, operate, and maintain all air-cleaning equipment authorized by this section. Bypass devices may be used only during upset or emergency conditions and then only for so long as it takes to shut down the operation generating the particulate asbestos material.

(b) There are the following exceptions to paragraph (a)(1):

(1) If the use of fabric filters creates a fire or explosion hazard, the Administrator may authorize as a substitute the use of wet collectors designed to operate with a unit contacting energy of at least 9.95 kilopascals.

(2) The Administrator may authorize the use of filtering equipment other than that described in paragraphs (a)(1) and (b)(1) of this section if the owner or operator demonstrates to the Administrator's satisfaction that it is equivalent to the described equipment in filtering particulate asbestos material.

§ 61.155 Reporting.

(a) Within 90 days after the effective date of this subpart, each owner or operator of any existing source to which this subpart applies shall provide the

following information to the Administrator:

(1) A description of the emission control equipment used for each process; and

(2) If a fabric filter device is used to control emissions, the pressure drop across the fabric filter in inches water gage; and

(i) If the fabric filter device uses a woven fabric, the airflow permeability in m³/min/m² and; if the fabric is synthetic, whether the fill yard is spun or not spun; and

(ii) If the fabric filter device uses a felted fabric, the density in g/m³, the minimum thickness in inches, and the airflow permeability in m³/min/m².

(3) For sources subject to §§ 61.151 and 61.152:

(i) A brief description of each process that generates asbestos-containing waste material; and

(ii) The average weight of asbestos-containing waste material disposed of, measured in kg/day; and

(iii) The emission control methods used in all stages of waste disposal; and

(iv) The type of disposal site or incineration site used for ultimate disposal, the name of the site operator, and the name and location of the disposal site.

(4) For sources subject to § 61.153:

(i) A brief description of the site; and

(ii) The method or methods used to comply with the standard, or alternative procedures to be used.

(b) The information required by paragraph (a) of this section must accompany the information required by § 61.10. The information described in this section must be reported using the format of Appendix A of this part.

(Sec. 114, Clean Air Act as amended (42 U.S.C. 7414)

§ 61.156 Active waste disposal sites.

To be an acceptable site for disposal of asbestos-containing waste material under §§ 61.151 and 61.152, an active waste disposal site must meet the requirements of this section.

(a) Either there must be no visible emissions to the outside air from any active waste disposal site where asbestos-containing waste material has been deposited, or the requirements of paragraph (c) or (d) of this section must be met.

(b) Unless a natural barrier adequately deters access by the general public, either warning signs and fencing must be installed and maintained as follows, or the requirements of paragraph (c)(1) or (c)(2) of this section must be met.

(1) Warning signs must be displayed at all entrances and at intervals of 100 m (330 ft) or less along the property line of the site or along the perimeter of the sections of the site where asbestos-containing waste material is deposited. The warning signs must:

(i) Be posted in such a manner and location that a person can easily read the legend; and

(ii) Conform to the requirements of 51 cm x 36 cm (20" x 14") upright format signs specified in 29 CFR 1910.145(d)(4) and this paragraph; and

(iii) Display the following legend in the lower panel with letter sizes and styles of a visibility at least equal to those specified in this paragraph.

Legend	Notation
Asbestos Waste Disposal Site.	2.5 cm (1 inch) Sans Serif, Gothic or Block.
Do Not Create Dust.	1.9 cm (¾ inch) Sans Serif, Gothic or Block.
Breathing Asbestos is Hazardous to Your Health.	14 Point Gothic.

Spacing between any two lines must be at least equal to the height of the upper of the two lines.

(2) The perimeter of the disposal site must be fenced in a manner adequate to deter access by the general public.

(3) Upon request and supply of appropriate information, the Administrator will determine whether a fence or a natural barrier adequately

deters access by the general public.

(c) Rather than meet the no visible emission requirement of paragraph (a) of this section, an active waste disposal site would be an acceptable site if at the end of each operating day, or at least once every 24-hour period while the site is in continuous operation, the asbestos-containing waste material which was deposited at the site during the operating day or previous 24-hour period is covered with either:

(1) At least 15 centimeters (6 inches) of compacted nonasbestos-containing material, or

(2) A resinous or petroleum-based dust suppression agent that effectively binds dust and controls wind erosion. This agent must be used as recommended for the particular dust by the manufacturer of the dust suppression agent. Other equally effective dust suppression agents may be used upon prior approval by the Administrator. For purposes of this paragraph, waste crankcase oil is not considered a dust suppression agent.

(d) Rather than meet the no visible emission requirement of paragraph (a) of this section, an active waste disposal site would be an acceptable site if an alternative control method for emissions that has received prior approval by the Administrator is used.

(Secs. 112 and 301(a) of the Clean Air Act as amended (42 U.S.C. 7412, 7601(a))

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